

AVS 2004

EXHIBITOR PROGRAM

ANAHEIM CONVENTION CENTER
ANAHEIM, CALIFORNIA
NOVEMBER 15, 16, 17

For More Information Visit Our Website
www.avs.org

A&N Corporation

#603

A manufacturer of high quality vacuum components for over 35 years. Our product line includes: flanges and fittings in the following style: ISO-KF(QF); ISO-MF(LF); UHV(CF); ASA; Tri-Seal; vacuum couplings; feedthroughs; vacuum valves (ball, angle, in-line, gate); vacuum line heaters/controllers; traps and special fabrications and chambers.

Accuvac Technology

#705

An ISO 9001-2000 certified company. We offer a one-stop source for all your conflat(r)style flanges and welded fittings. We specialize in these product lines and stock all items for quick delivery. Orders are generally shipped within one day of the order receipt. We have been in business over 25 years, and give an unconditional guarantee on everything we sell.

Accu-Glass Products

#214

Designs, engineers, and manufactures a wide range of ultrahigh vacuum subminiature-D electrical feedthroughs with air and UHV compatible connector fitted cable assemblies. The product range includes 9, 15, 25, and 50 pin instrumentation, power, coaxial and thermocouple-power contact combinations. The product range has been expanded to include: 9-pin circular subminiature-C electrical feedthrough mounted on a MINI CF flange, viewports, bellows sealed rotary feedthroughs, and bellows sealed linear feedthroughs. We maintain a large inventory of standard components for off the shelf delivery. Minor modifications of standard components, and custom engineered products are also available with quick delivery.

Adixen by Alcatel Vacuum Technology

#621

Introducing a new brand name for their products, Adixen™. The new product brand name differentiates Alcatel's vacuum products from their well-known telecommunication products. Alcatel manufactures a complete range of Adixen™ brand products including dry vacuum pumps and dry pumping systems, rotary vane pumps, ceramic bearing turbomolecular pumps, full 5 axis maglev turbomolecular pumps, molecular drag pumps, vacuum valves, vacuum gauges as well as vacuum flanges/fittings. Alcatel is also a world leader in helium leak detectors.

Advanced Energy Industries Inc.

#608

A global leader in process-centered technologies critical to plasma production of semiconductors, flat panel displays, data storage products, CDs, DVDs, architectural glass, and other applications. Our diverse portfolio includes power, flow, thermal, and source technologies. AE operates in regional centers in North America, Asia, and Europe, and offers a global sales and support network.

Advanced Fluid Systems

#629

Manufactures standard and custom rotary ferrofluid seals. Our standard line consists of hollow and solid shafts, heavy duty, reactive gas, miniature and compliant feedthroughs. AFS has extensive engineering, design and manufacturing facilities where we can modify or custom design a ferrofluid rotary feedthrough to meet your most rigorous demands. AFS the manufacturer of the "Dri-vethru and Turbo Drive".

AJA Inter national

#601

Sputtering Systems, Magnetron Sputtering Sources, Substrate Heating & Cooling, Sputtering Targets & Evaporation Materials, RF&DC Power Supplies, Plasma/Ion Sources, R&D e-Beam and Ion Beam Systems, Microwave Equipment and Electrostatic Chucks.

Altair Technologies

#631

"The Material Joining Innovators" Precision Furnace Brazing, Hydrogen, Nitrogen, Argon, Atmosphere Brazing, Vacuum Brazing, Flux less Vacuum Brazing of Aluminum, Contract Manufacturing, Turnkey Manufacturing, Approved Suppliers, UHV Specialization, Clean Room Assembly, Full Machining Capability, Engineering/Design Support, Internal Engineering Staff, Full CAD Capability, UHV Expertise, profit from our expertise.

Ambios Technology, Inc.

#625

Line of low cost, high resolution surface profilers feature sub-nanometer resolution and up to 400 micron Z range, the Xi and XP profilers are ideal instruments for measuring topographical features on a variety of materials, including thin films, optics, and MEMS devices.

American Institute of Physics

#200

Now purchase an AIP Article Pack. Simply prepay for a set number of articles from AIP journals and pay as little as \$3 per article. Visit AIP to learn about Scitation Alerts and journal backfiles to Volume 1, Number 1. Save more than 50% with online-only journal subscriptions, and save 40% on AIP Conference Proceedings.

Ametek Inc. #720

The new Dycor Dymaxion Mass Spectrometer offers the latest technology in gas analysis and includes System 2000 software for Windows 95 and NT. Features include ranges from 1-100, 1-200, and 1-300 AMU, a zero drift electrometer amplifier that ensures repeatable data, 32 bit multi-threaded operating software for real time process control, extensive systems integration capability, and Visual basic scripting. Ametek also offers PPT level trace moisture and oxygen analyzers that monitor gas purity.

Angstrom Engineering #229

Supplies high-performance magnetron sputtering sources and materials for a wide variety of R&D and production applications. Patented designs permit high target utilization and deposition rates with uncompromised film quality.

Angstrom Sciences, Inc. #517

Supplies high-performance magnetron sputtering sources and materials for a wide variety of R&D and production applications. Patented designs permit high target utilization and deposition rates with uncompromised film quality.

Applied Process Technologies #713

Applied Process Technologies, Inc. is an expert at magnetically confined plasmas. We use this expertise to develop industrial plasma sources for applications such as Sputtering, Plasma Cleaning and PECVD. In addition to several patent pending source technologies we offer advanced standard sources such as High Utilization Planar Magnetron Cathodes, Rotatable Magnetrons, Unbalanced Magnetrons and Anode Layer Ion Sources

Applied Surface Technologies #512

We show precision cleaning solutions using CO2 snow. CO2 Snow cleaning is a non-destructive process for removing particles of all sizes (down below 0.01 micron and smaller) and organic residues. We will demonstrate manual and semi-automated units for R&D or manufacturing cleaning applications. The process cleans metals, ceramics, optics, substrates, vacuum parts, fiber optics, analytical samples (AFM, XPS, etc.) and many other materials.

Asylum Research #817

Featured is the MFP-3D Atomic Force Microscope with sensed and closed loop operation in all three axes. The system features MicroAngelo powerful nanolithography and manipulation without added hardware, advanced programming capabilities, and top and bottom view optical access. New enhancements include Digital Q Control for unprecedented control between the tip and sample, ORCA, for conductive AFM measurement capabilities, and motorized X,Y and Z.

Atlas Technologies #239

A leader in aluminum UHV. We manufacture chambers as well as bimetallic Atlas flanges and fittings that enable aluminum to outperform stainless chambers. We also manufacture a wide range of hermetic bimetallic products for both vacuum and cryogenics. Applications: non-magnetic, thermal-performance, neutron, synchrotron, semiconductor fab, explore the superior performance of aluminum vacuum!

A-VAC Industries #816

Providing quality high vacuum support since

1969. Our well stocked parts department features new and rebuilt pumps, helium leak detectors, gauges, repair kits, and accessories from Alcatel, Welch, Leybold, BOC Edwards, Stokes, Hull and others. Our factory trained service department provides high quality service covered with a one year warranty.

Benchmark Thermal #110

Industrial heating systems and controls for process, exhaust and storage devices. Thermal insulating of primary and secondary components. Thermal control for pumps and processes.

Bestech Co., Ltd. #640, 642**BOC Edwards #424**

A leading supplier to the world's key technical markets including chemical, pharmaceutical, metallurgical, environmental, scientific instrumentation, research & development and semiconductor. BOC Edwards provides a broad range of technology and products, coupled with application expertise and supported by best-in-class operations and maintenance services for its global customer base.

Beijing General Research Institute of Mining and Metallurgy #728

BGRIMM is the largest and leading molybdenum and tungsten producer in China. With a forty year manufacturing history, BGRIMM supplies the following quality products at competitive prices: · Molybdenum sheets, rods, wires, and other components · Tungsten helixes · Tungsten-Rhenium thermal couples

Brushwellman Electrofusion Products #232

A world leader in the fabrication of specialized assemblies made from advanced materials for the scientific, medical and commercial industries since 1966.

California Brazing Company #111

Industry leading brazing capabilities, metallurgical experts, turnkey manufacturing and complex assembly expertise. Our team is committed to unparalleled client service and flawless projects delivered on time every time. Our turbo molecular pumped vacuum furnaces and hydrogen atmosphere furnaces are designed specifically for high and ultra high vacuum brazing applications.

Capitol Vacuum Parts #340

Provides a full line of high quality vacuum pump repair parts and kits for Alcatel, Ebara, Edwards, Leybold, Stokes, Welch, Varian and other manufacturers of mechanical and scroll, claw, and lobe pumps and cryopumps. Also offers technical support and turbomolecular pump service. Dedicated to providing you with the right parts, on time, everytime.

Center for Tribology #206

A world-leading manufacturer of precision tribology and mechanics material nano, micro and macro testers for scratch, indentation, wear, adhesion, friction and fatigue measurements, with in-situ monitoring of forces, wear and indentation depth, adhesion, acoustic and electrical parameters for biomedical, microelectronics, vacuum and other fields.

CeramTec North America #300

New in-vacuum ribbon cable assemblies are designed to complement our Sub D Type (MIL-C-24308) hermetic multipin connector product line and therefore cable configurations include 9, 15, or 25 conductor assem-

blies. Custom length Kapton cable assemblies and multiple termination options allow CeramTec to customize a cable assembly to your application.

DCA Instruments #615**DS Fibertech Corporation #735****Dry Plasma Systems #102**

Manufacturer of a patented Downstream plasma discharge commercialized as a "Barrel System" for the removal of photoresist, organic contamination and the surface treatment of polymers to promote adhesion and cleanliness. This plasma discharge is also available as a stand alone "Downstream Source" to be incorporated in existing products to prepare samples before deposition.

Duniway Stockroom Corp #222

Specializes in vacuum equipment and supplies; ion pumps and controllers; flanges, gaskets, bolts and nuts; vacuum gauges and controls; mechanical pumps and rebuild kits; supplies (oils, greases, hoses, bell jars) diffusion pumps and leak detectors. Equipment rebuilding services and a variety of reconditioned equipment.

Eagle Instrument Services #813

Repair of turbos and controllers, mechanical, diffusion, and diaphragm pumps. We also offer exchanges of most pumps, and the sale of pre-owned equipment. All equipment includes a one-year new parts warranty. Turbo repair and tool kits are also available. Kits include necessary replacement components, tools, and instructions.

Elsevier #638**Evans Analytical Group #620**

A worldwide network of laboratories specializing in materials characterization, failure analysis, and contamination identification. Our services include Dynamic SIMS, TOF-SIMS, XPS, AES, FTIR, SEM/EDS, FIB, TXRF, SPM, RBS, Raman, and GC/MS. EAG laboratories are located in California, Minnesota, Texas, New Jersey, Massachusetts, and Taiwan. In addition to the network of laboratories, EAG has sales representation in Japan, Singapore, and Korea.

FEI Beam Technology #212

Manufactures and sells nanometer resolution, UHV-compatible, liquid metal ion and Schottky field emission electron focusing columns for microscopy, Auger, SIMS, micromachining, and other surface science and semiconductor applications. FEI Beam Technology also manufactures Schottky electron sources, liquid metal ion sources, and control electronics.

FEI Company #316

Tools for Nanotech deliver the power to reach the nanoscale. SEM, TEM, and DualBeam FIB/SEM instruments, enable advanced, 3D metrology, device modification, structural analysis, prototyping, characterization, and diagnostics on structures at nanoscale dimensions. FEI's analytical software includes solutions enabling automated 3D tomography, including data collection, reconstruction, visualization and analysis.

FOI Corporation #330

Offers novel 300-mm narrow-gap ICP etching tool: High-density plasma is realized in a narrow discharge gap configuration with the fundamental advantages of ICP: low-pressure performance down to 0.1Pa, widest gap

pressure range up to a few kPa; superior discharge stability and uniformity; damage-free plasma; decouples plasma.

G&P Technology #805
CMP (Chemical Mechanical Polishing) System for Research and Development in the fields of Semiconductor, Optics, FPD (Flat Panel Display) and MEMS (Microelectromechanical System) Intelligent Full Monitoring System including Friction Force, Temperature, Acoustic Emission, Slurry Film Thickness, Pad Surface Profile and Viscoelastic Behavior.

Gamma Vacuum #539
Manufactures Ultra-High Vacuum products including ion, titanium sublimation, and non-evaporable getter pumps. Our staff has over 130 years of combined UHV experience and has applied their knowledge to bring the vacuum community a line of UHV products that excel in performance and value.

Garlock Helicoflex #210
A leading provider of sealing solutions for complex applications. Products include the Ultra Flex(r) low load metal seal, Cefilair(r) inflatable seal, and Helicoflex(r) spring energized seals to name a few. Applications include e-beam guns, end point windows, KF flanges, gas delivery systems and chamber inlet/outlet connections.

Geib Refining Corp #217
We reclaim gold, silver, platinum, palladium, and iridium from thin film production materials. Scrap residues include chamber scrapings, spent targets, boats, sandblast media, and rejected parts. We also clean shields. We strive to bring you the very best recovery chemically possible combined with one-on-one service.

Geller MicroAnalytical Laboratory #716
Certified to ISO-9000:2000 and 17025, offers products and analytical services to the technical community. Products include NIST and NPL traceable magnification reference standards for atomic force, optical and scanning electron microscopy; and reference materials for surface analysis and microprobe techniques; high vacuum desiccators; and metallographic equipment. Analytical services include Auger electron spectroscopy, XPS, SEM, X-ray, Electron Microprobe, profilometry and metallography.

Genco #614
Presenting their range of magnetron sputter cathodes that are unequalled in variety and performance. Of particular note will be the LOOP source for thick ferro-magnetic targets and >50% target use. A new linear ion source will be displayed with its unique 'wide-range' collimated mode of operation. In addition, Speedflo the multi-channel smart reactive gas controller and plasma spectrometer will be available for demonstration.

Heatwave Labs Inc #440

Helium Leak Testing #726

Hidden Analytical #516
Manufactures an extensive range of high performance quadrupole mass spectrometers for plasma characterization studies, surface science applications, precision gas analysis and vacuum diagnostics. The Hidden Analytical exhibit will showcase the "QIC-20", our fast response, capillary inlet system for process gas analysis, catalysis studies, combinatorial chemistry and reaction kinetics.

HIS Vacuum #102

Huettinger Electronic, Inc. #328
Manufactures a broad range of power supplies for a variety of vacuum sputtering, etching and induction heating applications. Outputs range from 300W up to 300kW at frequencies from DC to 27.12 MHz.

Huntington Labs #907
Offering a large selection of vacuum valves, feedthroughs, manipulators, fittings, flanges and roughing components. The newly designed modular positioning devices offer flexibility in choosing between manual, pneumatic and motorized applications. Custom designed chambers, manifolds, crosses and tees are supported by 35 years of experience in the vacuum industry. Customers take full advantage of in-house electropolishing, a clean room for assembly and testing and a CMM (Coordinate Measuring Machine) to document and support measurements and specifications.

HVA #417
A leading manufacturer of High/UHV vacuum valves will feature the new bellows sealed pendulum valve along with the patented design throttle valve/controller, shielded gate valve, rectangular/slot valves available in all sizes from MESC 200-300mm openings to 1321mm and larger.

Hysitron #425
As the world leader in nanomechanical testing, Hysitron is solely dedicated to the development of testing solutions for nanoscale mechanical characterization. Hysitron's high-speed in-situ SPM imaging and exclusive nanoDMA techniques provide superior profiling of thin films. An array of testing techniques provides custom solutions for any application.

ILMVAC #240
A wholly owned subsidiary of ILMVAC GmbH Germany, which developed since more than 50 years, innovative products for vacuum technology applications. The main users of our vacuum products are the chemical industry as well as research institutes.

Inland Vacuum Industries #310
Manufactures and distributes a complete line of vacuum fluids and lubricants for the general vacuum industry including semiconductor/ electronic and food packaging areas. Inland also offers a line of preventative maintenance products, inert heat transfer fluids, high vacuum greases and waxes, fluids reclamation services and custom distillation. Inland has NSF and USDA approval on lubricants used in the food and pharmaceutical packaging industries.

InstruTech, Inc. #233
Develops and manufactures instrumentation for measurement and control of gases and fluids. Our engineering, manufacturing, and management personnel have many years of experience with some well-known Colorado instrumentation companies. This year, we introduced our convection-based vacuum gauges and modules that are direct, plug-compatible, replacements for Helix/GP Convector(r).

Insulator Seal #325
Established a global reputation for providing high reliability product and prompt delivery of UHV-grade electrical feedthroughs and optical viewports for Ceramic-Metal seal applications including Semiconductor Equipment,

Analytical Instrumentation, UHV devices, and commercial and institutional research facilities. Product lines include Multi-pin, Low/high current power, Coaxial, liquid, Thermocouple & RF Feedthroughs, Optical viewports and Vacuum breaks & envelopes. ISI is an ISO 9001:2000 registered company.

Integran Technologies, Inc. #734
The world's premiere supplier of nanostructured materials and nanomaterial processing technologies. Through materials sales, contract manufacturing, technology licensing and R&D support. Integran serves a broad base of customers in sectors such as aerospace, defense, automotive, and sporting equipment, who are looking for breakthroughs in performance/cost for their existing products & processes, or who are seeking the missing link for making their innovative product ideas a reality.

ION-TOF USA #810
TOF-SIMS experts from ION-TOF will give visual presentations of the TOF-SIMS 5 and the development of the new Bismuth Liquid Metal Ion Source. With this ION-TOF has reached a new level of performance in molecular spectroscopy and imaging as well as in depth profiling applications; which include microelectronics, polymers, coatings, glass, paper and life science.

J.A. Woollam Co, Inc. #802
Spectroscopic ellipsometers for thin film characterization: multi-layer thicknesses, optical constants (n and k), in situ process monitoring and control, and more. New instruments extend the wavelength range to both vacuum ultraviolet and infrared (142nm to 33 microns). Offer both research-grade and high-speed metrology tools for process monitoring.

JC Controls #123
Manufacturer of vacuum gauging and liquid nitrogen level controllers. ion gauge controllers- single or dual bayard-alpert ion gauge controllers. Full range gauges combining ion with thermocouple or convection tubes. Digital thermocouple controls- thermocouple vacuum gauges in a variety of configuration. Liquid nitrogen level controllers- twenty years experience dealing with numerous configuration and applications.

JEOL USA, Inc #510
Manufactures a full line of surface analysis instrumentation including UHV-STMs featuring a high temperature sample heating stage, scanning Auger Microprobes with ESCA attachments and ultra high resolution, low voltage, field emission SEMs and ultra high vacuum (UHV) SEMs.

Jobin Yvon, Inc. #338
A world leading company in Ellipsometry and Advanced Process Control. We manufacture Spectroscopic as well as Laser Ellipsometer for Thin Film Characterization. Jobin Yvon also provides an Optical Emission Spectroscopy system for In-Situ Plasma Analysis and Interferometer for Real Time Thickness monitoring and End Point Detection.

Johnsen Ultravac #211
Manufactures a complete line of standard and custom made vacuum products for R&D and production laboratories including 6-axis manipulators, linear translators with 72" Z travel, 11 Torr vacuum chambers, beam line components and monochromators for Light Sources, cryo cooled space simulation systems for the aerospace industry including

blackbodies, benchcoolers and a wide range of deposition systems for the semi-conductor and opto-electronic industry.

Kashiyama-USA Inc. #324

The best screw dry pump innovator who can provide a wide range of the most durable, reliable and tough dry pumps throughout the semiconductor and FPD markets. Over 20 years of extensive knowledge and experience in vacuum pump business to develop and supply high quality equipment tailored to customers' requirement has contributed a huge role in high-tech industries.

Key High Vacuum Products #820

Manufacturers of stainless steel high vacuum equipment and components. We feature a complete product line building block components including valves, traps, NW-ISO & UHV flanges, pumping systems, custom manifolds and chambers.

Kimball Physics, Inc. #307

UHV electron and ion sources/systems: Beam energies 5eV to 100keV. Cathodes, cathode cartridges; faraday cups, phosphor screens. System options: Energy sweeping, rastering, fast pulsing, emission current control. UHV components: Multi-CF Fittings, vacuum chambers, eV Parts(r). Applications: Surface physics, vacuum physics, charge neutralization, cathodoluminescence, phosphor testing, semiconductor processing, RHEED, ESD. Custom designs.

Konstantin Technologies GmbH #312

A specialist in alkali and alkali earth materials for powerful getter and dispenser: Getters (NEGs/EGs) with extremely high sorption capacity, flexible activation and design, efficient pumping of all relevant residual gases. Full range of chromate free alkali Dispensers/-Vapor Sources - very pure vapor, easy handling and high yield.

Kratos Analytical #600

A leading manufacturer of surface analysis instrumentation for qualitative and quantitative XPS, AES, ISS, SIMS, and UPS characterization of elemental and molecular surface composition. Offering models from high through-put industrial machines to research systems with a wide range of optional preparation chambers and additional analytical features.

k-Space Associates #611

Leaders in in-situ, real-time thin-film characterization products. Our kSA 400 is the standard for analytical RHEED. kSA MOS yields two-dimensional thin-film curvature and stress monitoring. kSA RateRat Pro monitors deposition rate and optical constants. And, our new kSA BandiT system monitors wafer temperature from 0-650C on most semiconductor substrates.

Kurt J. Lesker Company #500

Manufacturer and distributor of standard and custom vacuum systems and components. Manufacturing capabilities include: vacuum chambers, subassemblies, standard and custom vacuum hardware, as well as complete deposition systems and deposition components. Stocking distributor of scroll, rotary vane, turbomolecular, diaphragm and industrial sized roots and piston style pumps.

Larson Electronic Glass #321

Producing state of the art glass-to-metal seals since 1954. Products include: view ports, tubular seals, glass adaptors, bellows

to glass seals, and custom designs. Larson products are used in high and ultra-high vacuum systems throughout the world.

LK Technologies #725

Specialists in surface analysis components as well as complete, custom systems: MINICMA for Auger analysis, High Resolution Electron Energy Loss Spectrometers (HREELS) at 1 meV resolution. Models RVL2000 for reverse-view LEED/AES. Also exhibiting our versatile ion guns and electron guns.

Mad City Labs #203

Manufactures high speed, high precision single and multi-axis nanopositioning systems with sub-nanometer resolution. Our products feature integrated position sensors, closed loop feedback, true parallel motion and high linearity. We have extensive experience in vacuum and UHV instrumentation design and manufacture and can offer customized solutions to your positioning needs. Featured products: Nano-Man5, ultra low profile Nano-LP Series, high speed Nano-PDQ Series.

Mantis Deposition #121

Mass Vac Inc. #230

A complete line of special purpose vacuum inlet traps will be exhibited with a variety of filter elements for specific applications. Oil mist eliminators for vacuum pumps with pumping speeds up to 300 CFM will also be shown. An oil filtration system that removes water and acids from vacuum pump fluids will be on display.

MaTeck GmbH #213

Designs and manufactures the "Pneumatic Drive" Displex closed cycle and the ultra low vibration Helitran open cycle families of cryogenic coolers that operate in the 1.7K to 900K temperature range. ARS integrates the cryostats by providing custom interfaces, instrumentation, vacuum shrouds, radiation shields, sample holders, temperature controllers and vacuum systems specific to your application for each cooler.

Maxtek, Inc. #205

Manufacturers of innovative vacuum products including: Deposition Monitors & Controllers, Crystals, Pocket Indexers, Sensor heads, Feedthroughs, Oscillators and Piezo-electric Valves. We are proud to introduce our new low cost MDC-260 controller and VPLO-6 oscillator giving longer crystal life and improved reliability to your crystals. MAXTEK, making measurement crystal clear.

McAllister Technical Services #801

Exhibiting UHV Kelvin-Probe, plus full range of standard and custom UHV devices such as bellows-sealed positioners, XYZ manipulators, quick-entry load lock system, sample heating/cooling and transfer devices, linear motion feedthroughs, PLD sample & target manipulator, differentially-pumped rotary platform, e-beam evaporator and many accessories.

MDC Vacuum Products Corp #325

Stocks thousands of off-the-shelf components and provides the widest product range of high and ultrahigh vacuum components in the industry. The MDC product line detailed on our technically based website, as well as in our new 528-page catalog consists of flanges, fittings, valves, roughing hardware, vacuum gauge tubes, glass sapphire and quartz viewports, electrical and fluid feedthroughs, mo-

tion and manipulation instruments, thin film electron-beam evaporation systems, and surface science chambers. MDC is an ISO 9001:2000 registered company.

Meivac, Inc. #538

For 30 years MeiVac has supported electronic, storage, optical, decorative, industrial, academic & government markets. Standard & Custom, diode & planar magnetron sputtering, ion, evaporation and etch; design, engineering, manufacture, installation and parts worldwide. Introducing the New Cryo-cooled Water Pumping Throttle Valves, with cryo head integrated for optimum Residual Gas Control.

Micro Surface Corporation #917

A leading supplier of dry film lubricant coating services. Our application process, Process SL-39, was designed to meet the advanced requirements of the semiconductor industry, which often impose demands beyond the practical limits of oils and greases. Let us be your solution to tough friction problems.

Minus k Technology #231

Manufactures vibration isolation products ideal for SPMs, Micro-hardness testers, laser and optical systems. Products are easy-to-use, low-cost, require no air, can be vacuum compatible, and include bench-top platforms, workstations and custom systems. With guaranteed 1/2 Hz natural frequencies, performance is 10 times better than air tables.

MKS Instruments #306

A global provider of instruments, components and subsystems for measuring, controlling, powering and monitoring of critical parameters in vacuum-based manufacturing environments. Products include pressure and vacuum measuring gauges; pressure control valves; vacuum components and valves; mass flow controllers; gas analysis instruments; portable helium leak detectors; RF/microwave/DC plasma generators; digital control network devices; and portable calibration systems.

Molecular Imaging #707

Manufacturers research grade Atomic Force Microscopes and offers the only truly modular SPM for maximizing your investment. With two scanners and one microscope head the PicoPlus(r) becomes a standalone, environmental, ambient, electrochemical SPM or interfaces to an inverted light microscope. See us for the patented PicoTREC, molecular mapping and recognition system.

Nanoink, Inc. #612

Exists to develop and commercialize the patented Dip Pen Nanolithography (DPN) process for nano-scale fabrication. The DPN process allows our customers to create revolutionary new products/services using a molecular bottom-up approach to nanofabrication. Application of the DPN process spans the full gamut of life sciences to microelectronics industries.

Nano-Master, Inc. #814

NSC-2000, 3000 and 4000 Sputter Coaters; NPE-3000 and 4000 PECVD Systems, NRE-3000 and 4000 Reactive Ion Etchers, NTE-3000 Thermal Evaporator toolSWC-2000 and SWC-3000 Megasonic Single Wafer and Mask Cleaners; SWC-4000 Pelliclized Reticle Cleaners; ANELVA Cryopumps, Vacuum Gauges, Helium Leak Detectors, RGA s;

PLASMA CONSULT Hollow Cathode, Microwave, and Inductively Coupled Plasma Sources, Langmuir Probe; SHEN CHANG Pulse DC Power Supplies.

Nanonics Imaging Ltd #224
Ultimate resolution AFM/NSOM/SPM systems including the first two probe SPM system. Hallmarked by transparent integration with optical and electron/ion beam systems including microRaman, confocal, SEM's, TEM's, FIB's, 10 K operation. Optically transparent AFM probes surpassing nanotube profiling/deep trench capabilities, multiwire electrical, Nanoheater™ thermal conductivity, electrochemical, AFM controlled gas & liquid nanochemical deposition.

NANOSENSORS™ #815
Specializing in the development and production of innovative high quality probes for scanning probe microscopy (SPM) and atomic force microscopy (AFM). NANOSENSORS™ high quality probes fit to all commercially available AFMs and are designed for highest resolution and outstanding durability. NANOSENSORS™ is a brand of NanoWorld AG.

Nevada Vacuum #204
A division of Advanced Technical Services Inc. NEVAC offers high vacuum products and services. Engineering services include custom manufacturing and chamber design. Field services include, equipment maintenance, helium leak detection and on site welding, fabrication and equipment repair. Our inventory of used equipment is updated regularly on the website but feel free to call for the latest.

Nonsequitur Technologies #804

Nor-Cal Products, Inc. #635
Manufacturer of stainless steel vacuum components since 1962. Standard products include: NW, ISO, ASA, CF, EVAC and wire seal flanges; Fittings, viewports, liquid and electric feedthroughs and flexible hoses; crystal monitors, sensors and feedthroughs; manual and pneumatically actuated valves; pressure control valves; heater jackets; fore-line traps; and manipulators. Custom chambers, manifolds, feedthrough collars and baseplates can be manufactured from customer specifications, sketches or drawings.

n-Point #117
Manufactures ultra-precision motion and control devices for nano-scale research and manufacturing. Our products include a series of nanopositioning systems that consist of stages and control electronics. The positioning products enable rapid, precise, and repeatable motion and are used in applications ranging from life science to semiconductor industry.

Ocean Optics, Inc. #520

Omicron Nanotechnology USA #400
World's leading supplier of innovative instrumentation and unique tool combinations for multi-technique surface science. This year we expand our instrument spectrum with a new dedicated ESCA-System, the ESCA+, and the new revolutionary MATRIX SPM control system; both will be presented at the exhibition.

Omley Industries #326
Specializes in a wide variety of vacuum brazed components including specialty hermetic feedthroughs and stand-offs; sapphire,

diamond and beryllium windows; optical and infrared probes. Omley focuses exclusively on prototype and OEM production vacuum brazing. We braise specifically for your designs and applications. Limited quantities are no problem.

Osaka Vacuum, LTD #235
New TG-M series is designed to provide self-diagnostics, maintenance free operation, high throughput vacuum pumping, mountable in any orientation and long-term reliability with compact and light body. TMS is as an option. It can be used in harsh application such as CVD, Sputtering, etc. The series is available from 390 L/sec to 2400 L/sec.

Oxford Applied Research #617
Manufacturer of growth, processing, and characterization equipment for semiconductor or thin film research. Products include RF atom sources for high quality oxide/nitride growth, a full range of RF and DC broad-beam ion sources for sputter-deposition or ion-beam assisted deposition, mini e-beam evaporators, nanocluster deposition sources and thermal gas crackers.

Pacific Nanotechnology Inc. #215
Offers Atomic Force Microscopes (AFM) for research, product development, and process control applications. Each of the Pacific Nanotechnology AFM products offers high performance is easy-to-use and versatile. The latest product added to the product line, the NanoR Crystal, sets a new standard in AFM instrumentation.

Pfeiffer Vacuum #406
Manufactures a complete line of turbopumps including TPH 2301- for high gas loads; TPH 1201- workhorse for 1200 l/s pumping; TPD 011- world's smallest turbopump; XtraDry™ particle-free dry pump; magnetically coupled rotary vane pumps-eliminates oil leaks; QualyTest™ leak detectors; HiQuad mass spectrometer; Prisma™ RGA's and DigiLine digital gauges.

Phelps Electronics, Inc. #723
Specializing in the manufacture of the highest quality AT-cut quartz crystal sensors for all thin film thickness monitors and controllers. Offering the MCS6 Multi Crystal Sensor which holds six crystals, is mounted on a 1" o-ring seal feedthrough. Other products include UHV sensorheads, instrument feedthroughs and cables.

PHPK Technologies #407
Specializes in the design and manufacture of systems, subsystems, and components for the vacuum and cryogenic industries. PHPK has standard products including VJ piping, cryogenic valves, bayonets, vacuum seal-off valves, and CVI Torr Master(r) Cryopumps. Additionally, PHPK offers custom engineering, design, and fabrication of all sizes of vacuum chambers.

Physical Electronics USA #416
A leader in surface analysis instrumentation, Physical Electronics and ULVAC-PHI manufacture instruments that are used to develop and characterize advanced materials systems. Visit our booth to see the latest advances in our product line including: the PHI-700 Scanning Auger Nanoprobe, the TRIFT Time-of-Flight SIMS, the ADEPT-1010 Quadrupole SIMS, and the Quantera Scanning X-ray Microprobe.

Plasma Surface Engineering Corp. #803
Components for plasma-based thin film research & manufacturing: Spindrift ion anode layer ion sources, SunSource & Polaris sputtering sources, I-Mag combined ion beam-magnetron sources. We are the exclusive supplier of Manitou Systems Delta Glow inductively coupled RF plasma sources, Helius & Accu-Match RF power systems. Leasing & evaluation programs are available.

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A provider of equipment and services to the surface analysis community. RBD repairs, upgrades, and resells, previous generation Physical Electronics (PHI, Perkin-Elmer) surface analysis systems and components. RBD also provides Auger and XPS analytical services through our Surface Analysis Lab.

Refining Systems #806

Manufactures a wide variety of products for high-tech industries, research facilities, vacuum coating industries, thin film deposition laboratories, and other trades. Our product line includes sputtering targets, evaporation materials, rods, sheets, wires, foils, shots, discs and other products.

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In 2002, APD Cryogenics was acquired by the Cryogenics division of Sumitomo Heavy Industries. Together, SHI Cryogenics Group manufactures a wide range of products for various markets. Our product spectrum includes 4K & 10K Cryocoolers, Cryopumps, Pulse Tubes, Stirling Coolers, Chillers and Shield Coolers. The renowned engineering departments in Allentown, PA and Tanashi, Japan will continue to focus on the latest technology drivers for the vacuum industry which include innovative Cryopump technologies.

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